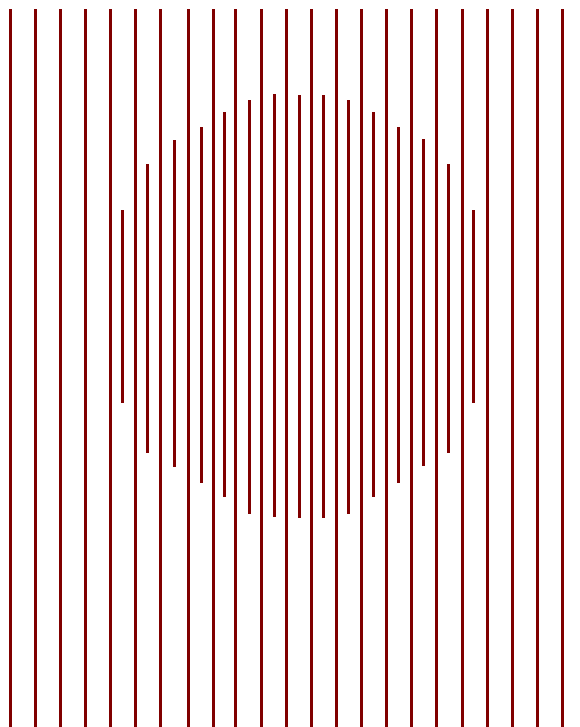


# CBO PAPERS

## OPTIONS FOR RECONFIGURING SERVICE ROLES AND MISSIONS

March 1994



CONGRESSIONAL BUDGET OFFICE

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# **CBO PAPERS**

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## **OPTIONS FOR RECONFIGURING SERVICE ROLES AND MISSIONS**

**March 1994**



**CONGRESSIONAL BUDGET OFFICE  
SECOND AND D STREETS, S.W.  
WASHINGTON, D.C. 20515**

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## **NOTES**

**Unless otherwise indicated, all years referred to in this paper are fiscal years.**

**Numbers in tables may not add to totals because of rounding.**

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## **PREFACE**

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The roles and missions of the military services have remained essentially unchanged since they were established, in broad terms, in 1948. Recent international events and U.S. budgetary pressures may now provide the impetus for reviewing the allocation of tasks and resources among the various services. This paper, prepared at the request of the Senate Committee on the Budget, examines various ways to realign missions as they are currently assigned to the services. Consolidating support functions and eliminating conventional forces that duplicate capabilities fielded by more than one service could lead to significant budgetary savings. This paper contains several options for revising service roles and missions and examines the savings that could result as well as the effect on service capability. In keeping with the Congressional Budget Office's (CBO's) mandate to provide objective analysis, this paper makes no recommendations.

Frances M. Lussier of CBO's National Security Division prepared this paper, with the assistance of Lane Pierrot, David E. Mosher, and Ivan R. Eland, under the general supervision of Robert F. Hale, Neil M. Singer, and R. William Thomas. William P. Myers and Raymond J. Hall of CBO's Budget Analysis Division provided the cost analysis. The author wishes to thank Richard L. Fernandez for his assistance.

Paul L. Houts edited the paper, Christian Spoor provided editorial assistance, and Cynthia Cleveland prepared it for publication.

**Robert D. Reischauer**  
Director

**March 1994**

## **CONTENTS**

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	<b>SUMMARY</b>	<b>vii</b>
<b>I</b>	<b>INTRODUCTION AND BACKGROUND</b>	<b>1</b>
	Senator Nunn's Speech 1	
	Response of the Chairman of the	
	Joint Chiefs of Staff 3	
	Questions Remain 8	
<b>II</b>	<b>ILLUSTRATIVE CHANGES TO CURRENT</b>	
	<b>CONVENTIONAL FORCES TO REFLECT</b>	
	<b>REVISED ROLES AND MISSIONS</b>	<b>11</b>
	Rely More on the Marine Corps for	
	Expeditionary or Contingency Forces 11	
	Reduce Aircraft Assigned to Support	
	Ground Forces 16	
	Rely More on the Air Force for	
	Power Projection 21	
	Increase Reliance on Army Systems	
	for Theater Missile Defense 26	
	Implications of Changing Roles and Missions 30	

**TABLES**

<b>S-1.</b>	<b>Areas for Possible Consolidation as a Result of Changing Roles and Missions</b>	<b>ix</b>
<b>S-2.</b>	<b>Support Activities in Which Consolidation Could Realize Savings</b>	<b>xi</b>
<b>S-3.</b>	<b>Savings Resulting from Illustrative Changes in Service Roles and Missions</b>	<b>xiv</b>
<b>1.</b>	<b>Savings Resulting from Relying More on the Marine Corps for Expeditionary Forces</b>	<b>15</b>
<b>2.</b>	<b>Savings Resulting from Illustrative Changes in Tactical Air Forces Supporting Ground Forces</b>	<b>18</b>
<b>3.</b>	<b>Savings Resulting from Relying More on the Air Force for Power Projection</b>	<b>24</b>
<b>4.</b>	<b>Savings Resulting from Increasing Reliance on Army Systems for Theater Missile Defense</b>	<b>28</b>

**BOX**

<b>1.</b>	<b>Current Service Roles and Missions</b>	<b>12</b>
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## **SUMMARY**

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Nearly 50 years ago, at a meeting in Key West, Florida, military leaders established the broad outlines for the functions that U.S. military services perform today. That outline--basically unchanged since its inception--still guides the division of labor among the services. Concerns over the budget deficit and drastic changes on the international scene, however, now make it vital to review the roles and missions assigned to the services.

## **PREVIOUS REVIEWS OF ROLES AND MISSIONS**

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Two reviews of the services' traditional roles and missions in the past two years have rekindled the debate about the way the Department of Defense (DoD) allots its responsibilities and resources.

### **Senator Nunn's Speech**

Senator Sam Nunn, Chairman of the Senate Committee on Armed Services, suggested the need for a review of current service roles and missions in July 1992. In a speech on the Senate floor, he enumerated several areas within the U.S. military where he felt that duplication existed among the capabilities possessed by different services.

For example, with respect to logistic and support activities, Senator Nunn questioned why each service needed its own maintenance depots, legal corps, and medical corps, suggesting that DoD-wide organizations in these areas might be more efficient. "Streamlining the logistics, administration, and management duplication among the services could save tens of billions annually," he said. Regarding combat forces, he cited expeditionary ground forces fielded by the Army and the Marines, forces for power projection within the Air Force and the Navy, and Navy and Marine tactical air forces as areas of possible duplication. According to his estimates, eliminating two divisions of land forces and five wings of tactical air forces, if justified, could save \$5 billion annually in operating costs. Although not endorsing any specific reductions in forces, Senator Nunn noted that redundancy and duplication are costing billions of dollars a year and called for a far-reaching review of the U.S. military's roles and missions.

### Review of Roles and Missions by the Chairman of the Joint Chiefs of Staff

In the triennial report required by the Goldwater-Nichols Act, the Chairman of the Joint Chiefs of Staff undertook an extensive review of the services' roles and missions that responded to many of Senator Nunn's questions. In that report, published in February 1993, then Chairman General Colin Powell expressed strong support for maintaining seemingly redundant capabilities among the services. General Powell felt that the availability of similar but specialized capabilities represented by forces in different services allows commanders to tailor U.S. military response to any contingency, regardless of geographic location or the nature of the threat. Although emphasizing the need for duplication in some areas, General Powell conceded that the military establishment could reduce the degree of redundancy. Moreover, he did recommend some reductions and consolidations in forces, including those in areas such as air defenses for North America and repair depots. Nevertheless, he saw no need at that time for major restructuring or fundamental shifts in roles and missions.

The Chairman, however, did recommend further study of more far-reaching changes. These included reducing Army forces for rapid response, relying on the Army to provide fire support for the Marines, and consolidating some maintenance support activities. (Summary Table 1 lists some of the issues raised by Senator Nunn and the Chairman's response to them.) Since General Powell issued his report, the Administration has taken some of the actions that were recommended for further study. Specifically, in the Defense Department's budget request for 1995, the Marine Corps canceled its purchase of heavy artillery pieces and will instead rely on the Army for support in this area. Thus, the military itself is taking steps to reduce needless duplication.

### THE DEBATE OVER FURTHER CONSOLIDATIONS CONTINUES

Some defense experts argue that any reductions in the size of the defense establishment below current levels would endanger U.S. security. They believe in part that duplicative and redundant forces provide some insurance against unknown and unexpected threats. When capability resides in differently configured forces, such as land-based and sea-based aircraft, such forces provide multiple ways to attack the enemy, thereby complicating its defense task. Moreover, eliminating seemingly redundant forces would reduce the total capability of the U.S. military, thus making it difficult, if not impossible, for the Department of Defense to meet its goal of being able to fight two regional conflicts nearly simultaneously.

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**SUMMARY TABLE 1. AREAS FOR POSSIBLE CONSOLIDATION AS A  
RESULT OF CHANGING ROLES AND MISSIONS**

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**Issues Raised by  
Senator Nunn****Action Taken or Recommended by the  
Chairman of the Joint Chiefs of Staff**

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**Air Forces****Strike Aircraft Based  
on Land and on Carriers****Maintain status quo****Marine Aircraft and  
Naval Aircraft in Support  
of Marine Operations****Maintain two air forces, but integrate  
some forces and reduce overall size****Ground Forces****Infantry Divisions in  
Army and Marines****Explore possibility of reducing number of Army  
light divisions****Artillery and Tank Forces in  
Army and Marines****Study concept of allowing Army to provide  
at least some artillery support for Marines****Support Activities for All Services****Initial Pilot Training****Consolidate initial training for pilots of  
fixed-wing aircraft and use common trainer;  
study concept of consolidating all initial  
helicopter pilot training at Army aviation school****Medical Corps****Not addressed****Maintenance Depots****Consider closing 7 or 8 of the 30 depots**

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**SOURCE:** Congressional Budget Office based on Senator Sam Nunn, "The Defense Department Must Thoroughly Overhaul the Services' Roles and Missions," *Congressional Record*, July 2, 1992, p. S9559, and Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993).

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At the same time, other defense experts, including some Members of Congress, feel that General Powell's report did not go far enough in its recommendations for consolidation and left many questions unanswered. Indeed, some Members believe that failing to deal with the issues Senator Nunn raised will diminish U.S. military capability by expending limited defense resources on needless duplication and inefficiency.

Consequently, in its bill authorizing defense spending for 1994, the Congress established an independent commission to study the military services' roles and missions. This commission, which is now being formed, will be composed of private citizens appointed by the Secretary of Defense and will consider changes more far-reaching than those endorsed by General Powell. The Congress gave the commission a very broad charter and instructed it to review the support requirements for the entire U.S. military establishment, as well as the functions of each of the military services. The commission's report on its review, however, is not due to be submitted to the Congress until a year after its first meeting.

Finally, Members of both the Administration and the Congress have expressed concerns about whether the presently planned defense structure is affordable given today's budget constraints. Secretary of Defense William Perry has admitted that DoD's five-year plan is underfunded. Eliminating needlessly duplicative capabilities from the U.S. military establishment may be one way to reduce budget pressure while sacrificing as little capability as possible.

To provide information for this ongoing debate about service roles and missions, the Senate Budget Committee asked the Congressional Budget Office (CBO) to evaluate budget implications of possible changes in service roles and missions. In response, CBO has examined further consolidations along the lines of those suggested by Senator Nunn, but beyond those recommended by General Powell. Such consolidations are possible in two broad categories--support activities and conventional forces.

### Support Activities

Consolidating some support functions that each of the services provides independently--such as maintenance facilities, initial training, and medical services--might improve efficiency and yield savings. As the size of the services decreases over the next few years, the facilities that each has developed may not be used to capacity. Consolidating functions and closing the least-used facilities could save money in the long run. (See Summary

Table 2 for a list of possible consolidations of support activities.) Furthermore, such consolidations, though potentially lowering costs, would not diminish overall U.S. military capability because they would not reduce the number of forces available for combat.

The military has endorsed the concept of consolidating support activities, but only when it feels that such a change would not affect the services' abilities to train and equip their forces. Thus, General Powell did endorse some streamlining of the depot system, but did not support consolidating depots across service lines--for example, putting the Army in charge of all maintenance work on helicopters from all services. In a similar vein, he supported some consolidation of initial pilot training, but did not endorse having single centers for initial training of fixed-wing or helicopter pilots.

**SUMMARY TABLE 2. SUPPORT ACTIVITIES IN WHICH  
CONSOLIDATION COULD REALIZE SAVINGS**

Area	Potential Consolidation	Examples
Maintenance Depots	Consolidate similar facilities across service lines	Place all aeronautical depots within the Air Force
Training Facilities	Consolidate initial pilot training	Conduct all initial fixed-wing pilot training at one facility; conduct all initial helicopter pilot training at one Army facility
Medical Services	Combine the services' Medical Corps	Create a DoD-wide health agency
Legal Services	Combine the services' JAG Corps	Combine all legal services into one DoD-wide organization
Helicopter Support	Combine all noncombat helicopter forces	Have the Army provide general helicopter support for all services

**SOURCE:** Congressional Budget Office.

**NOTE:** DoD = Department of Defense; JAG = Judge Advocate General.

Nonetheless, these more radical changes in the way DoD supports its services, which General Powell did not recommend, are the ones that have the potential to save the most money.

Other consolidations have been mentioned but have also been opposed by the military, though for other reasons. For example, one proposal would bring medical and legal services that are now provided by each branch of the military under DoD-wide organizations. Opposing this idea, General Powell's report maintained that consolidating legal services would not save money. Another change in the delivery of support services would make one service--most likely the Army--responsible for providing noncombat helicopter support for all the services. General Powell supported this concept, but only in a very limited sense. Thus, although the military is consolidating some activities as it is faced with a shrinking establishment and budget, room still remains for more aggressively eliminating redundancies within the system.

Consolidating activities across service lines, however, would cause some disruption in the current support infrastructure. In many cases, consolidating functions would require reassigning and relocating personnel or equipment as some training facilities or depots were closed and others were designated for multiple-service use. In the short run, some consolidations might require one-time investments similar to those associated with base closings, but improving the military's efficiency in providing support activities to its combat forces would undoubtedly save money in the long run.

From this brief discussion of the issues raised by consolidating support activities, it is clear that potential savings must be balanced against less tangible factors: inconvenience, the need for new working relationships and lines of authority, and transitional costs and disruptions. In the end, some consolidations might lead to a streamlined and more efficient support establishment. At the request of the Senate Budget Committee, CBO is currently analyzing several support activities, including depot maintenance, pilot training, and medical care.

### Conventional Forces

The bulk of this paper focuses on the impact of changing roles and missions in the military's conventional forces. These forces, designed to fight nonnuclear wars such as Operation Desert Storm, represent the most expensive portion of the U.S. military. Given the overwhelming superiority that U.S. forces demonstrated in Desert Storm, it might be possible to eliminate some duplicative forces without endangering U.S. national security.

## **ILLUSTRATIVE OPTIONS THAT REFLECT REVISED ROLES AND MISSIONS**

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To illustrate the type of savings that might be possible by changing current service roles and missions, CBO examined several options that would eliminate or reduce the overlap in capabilities fielded by two services to perform the same mission. The options provide a vehicle to examine the trade-offs between the savings that would be realized and the capabilities that would be lost if they were adopted. They are not meant to represent an exhaustive list. And although the savings associated with the options are presented in quantitative terms (see Summary Table 3), the attendant losses in capabilities are discussed in qualitative terms only.

CBO had several criteria for selecting and structuring the options. The primary factor in defining each illustration was the savings that would be realized by eliminating duplicative forces. In choosing which of the redundant forces would be retained, however, CBO weighed several considerations. These factors included the different capabilities of the forces involved and whether some forces were capable of performing more than one mission. Another factor was the efficiency of each of the duplicative forces in performing a given mission. A final factor involved operational considerations. Not all of these factors were applied the same way in structuring each option, but they played some part in all of them.

### **Rely on the Marine Corps to Provide the Bulk of Expeditionary Forces**

Both the Army and the Marine Corps train and equip large numbers of troops to respond rapidly to a crisis anywhere in the world. All of the Marine Corps's three divisions are designed for this purpose, and four of the Army's 12 divisions are configured without heavy equipment so that they, too, can be transported easily. These "light" divisions in the Army include one airborne division, one air assault division, and two light infantry divisions. The Army's other eight divisions include heavy weapons such as tanks and require large amounts of sealift or airlift to be sent to trouble spots. The Army plans to eliminate two of these heavy divisions in the next five years.

Historical evidence suggests that the U.S. military may not need this many light divisions, as they are currently designed, to respond quickly to international incidents. Of the 215 incidents that required U.S. military intervention between 1945 and 1978, only 5 percent involved a force of

**SUMMARY TABLE 3. SAVINGS RESULTING FROM ILLUSTRATIVE CHANGES IN SERVICE ROLES AND MISSIONS**  
(By fiscal year, in millions of dollars of defense budget authority)

Change	1995	1996	1997	1998	1999	Total
Rely More on the Marine Corps for Expeditionary Forces; Reduce Number of Army Light Divisions	520	1,810	3,170	4,220	4,740	14,460
Make the Army Responsible for Its Own Close Air Support						
Eliminate five Air Force wings	140	340	610	930	1,170	3,190
Eliminate two Air Force wings	140	340	440	470	490	1,880
Reduce Navy Aircraft in Support of Marine Operations	40	110	200	280	380	1,010
Rely More on the Air Force for Power Projection						
Eliminate five carriers and air wings <sup>a</sup>	3,070 <sup>b</sup>	1,840	2,930	4,090	5,450	17,380
Eliminate two carriers and air wings	2,790 <sup>b</sup>	700	940	1,190	1,220	6,840
Increase Reliance on Army Systems for Theater Missile Defense						
Terminate all Air Force and Navy efforts	600	690	690	910	960	3,850
Terminate all Air Force and Navy area defense efforts	400	440	400	610	700	2,550

SOURCE: Congressional Budget Office based on Department of Defense data.

a. Also eliminates some surface ships and submarines to reflect reduced need for escort and replenishment ships.

b. Includes savings resulting from canceling procurement of an aircraft carrier.

division size or larger. And it has been almost 50 years since the United States has deployed an entire division by parachute drop, the mission for which the Army's airborne division is trained and equipped.

This option would assign the Marines primary responsibility for providing contingency forces. The three Marine divisions, each equipped with small numbers of tanks and lightly armored vehicles, are well designed to respond to crises worldwide when supported by Marine air wings. The option would eliminate from the Army's force structure those divisions with the least fire power--the light infantry divisions. It would also combine the airborne and air assault forces into one division, only one brigade of which would be designated for parachute drop, since Army rangers and special forces would provide additional parachute capability. Adopting this option would result in savings of \$520 million in 1995 and more than \$14 billion over the next five years compared with the Administration's defense plan.

Even though the Army would retain one light division composed of airborne and air assault forces, as well as additional ranger and special forces units, this option would obviously limit the Army's capability to respond in some circumstances. The military would instead have to rely more on the Marines to respond to contingencies.

#### Make the Army Responsible for Close Air Support

Ground forces and air forces have typically operated in the same area and provided each other with mutual support. Forces on the ground have defended air bases from attack from both land forces and enemy aircraft. Conversely, air forces--in missions referred to as close air support--have attacked from the air enemy ground forces that are beyond the reach of ground-based weapons. These roles have become more complex, however, as ground-based weapons--helicopters and artillery in particular--have attained the ability to attack enemy ground forces at longer ranges. As a result, the Army has become less dependent on the Air Force for air support.

This option would relieve the Air Force of the responsibility for providing close air support to the Army. The Army would have to rely instead on its own assets, such as attack helicopters and artillery, to attack enemy ground forces beyond the range of weapons such as tanks. The Army's attack helicopters and artillery systems are increasingly able to attack targets at longer ranges and should be able to fill this role.

This option would yield significant savings if it led to the elimination of all aircraft assigned to the close air support mission in the Air Force--about 25 percent of the total fighter force. Retiring all of the Air Force's A-10s and about one-third of its F-16s would reduce the size of the Air Force by about five wings. Such a reduction in force could save \$140 million in 1995 and \$3.2 billion over the next five years compared with the Administration's plan.

Eliminating one-third of the Air Force's F-16s, however, could limit the Air Force's ability to carry out its other missions. The F-16 is a multirole fighter capable of performing other tasks, such as air-to-air combat, besides close air support. Cutting the F-16 fleet by one-third and the tactical Air Force by 25 percent would represent a major reduction in overall Air Force capability. A less drastic reduction would eliminate only those aircraft devoted solely to close air support (the A-10s) and would result in a smaller cut in the overall size of the Air Force--two wings, or about 10 percent. Retiring only the A-10s would yield more modest savings of slightly less than \$2 billion over the next five years.

Eliminating close air support aircraft from the Air Force would have its disadvantages. It would cut the number of ways that a U.S. commander could attack enemy ground forces in close proximity to U.S. ground forces. It might also diminish the Air Force's ability to attack targets on the ground before Army forces arrive at remote trouble spots. These limitations have to be weighed, however, against the large savings that could be realized.

### Reduce Navy Aircraft in Support of Marine Operations

In the same way that the Air Force provides support for Army operations, the Navy provides aircraft in support of Marine operations. In the case of the Navy and the Marines, however, the duplication of capability is much more direct. Both services field and fly large numbers of F/A-18s, along with several other types of aircraft. Although Navy and Marine fighter aircraft such as the F/A-18 were assigned different missions during the Cold War, their missions today are becoming very similar.

This option would eliminate from the Navy's carrier-based force some of those aircraft that duplicate forces fielded by the Marines. The Marines operate 16 squadrons of F/A-18s containing about 190 aircraft of the same model as those operated by the Navy. This option would reduce naval air forces by 10 F/A-18 squadrons phased in over five years. Savings from such a reduction would be \$40 million in 1995 and \$1 billion over the next five years compared with the Administration's plan.

Although the savings associated with this option would be substantial, the potential drawbacks are also significant. Eliminating 120 Navy F/A-18s would cut the Navy's F/A-18 force by more than one-third, and reduce combined Navy and Marine F/A-18s by more than 20 percent. With such a significant cut, the United States could find it difficult to take part in two regional conflicts nearly simultaneously. Although of less concern, reducing the number of Navy aircraft could make it difficult for the Navy to equip its carriers with a full complement of planes. Basing more Marine Corps squadrons on Navy carriers, which the Navy plans to do increasingly in the future, could make up some of this shortfall.

### Rely More Heavily on Air Force Bombers for Power Projection

The United States has many ways of exerting its military influence or projecting its power around the world. That objective has been accomplished in the past by placing ground troops ashore, basing U.S. forces abroad, and deploying naval battle groups (often including aircraft carriers) off foreign shores. Long-range bombers based in the United States have been equipped in the past with nuclear weapons and held in reserve for strategic attack. Today, rearmed with conventional weapons, these aircraft duplicate the nonnuclear capabilities of aircraft carriers and their strike aircraft.

This option would shift the reliance for air strikes on distant targets away from the carrier fleet and assign it primarily to the Air Force's long-range bombers. Relieving the Navy of this role would allow it to focus on providing forces for warfighting only. The reductions in the size of the carrier fleet that would be possible as a result of this shift in mission could yield significant savings.

This change would leave the Navy with the primary mission of its carriers being to support one major regional contingency only. The Navy then could shrink its carrier fleet to seven, more than enough to fulfill this mission. Should a second conflict break out simultaneously in another region, Air Force bombers would be available to provide strike capability. Reducing the number of carriers from 12 to 7, and eliminating their associated escort and support ships and air wings, would yield savings of \$3.1 billion in 1995 and more than \$17 billion over the next five years compared with the Administration's plan.

Reducing the number of carriers by almost half, from 12 to 7, would mean a change in how the United States executes its national security policy. It is true that long-range Air Force bombers should be able to attack any

region in the world operating either from bases near the region or from the continental United States and relying on in-flight refueling. Nevertheless, bombers cannot play the same diplomatic role that carriers have played in U.S. execution of its foreign policy during recent decades. Carriers can remain on station for extended periods of time, and they can collect valuable information while providing U.S. presence. Bombers have only limited ability to provide these same capabilities. Moreover, although the presence of other types of Navy surface ships can remind nations of U.S. concern, only carriers can launch repeated air attacks, if that is what is required.

A more modest shift of responsibility for air strikes on distant targets from the Navy to the Air Force would result in reducing the carrier force from 12 to 10 rather than 7. A 10-carrier force would be just sufficient to support two regional conflicts simultaneously, and it would be able to provide presence at least part of the time in three areas of the world. And compared with a seven-carrier force, it would provide the Commander-in-Chief with more flexibility to dispatch carriers to hot spots in order to demonstrate U.S. resolve. Savings, however, would be more modest than in a reduction to a seven-carrier fleet--\$2.8 billion in 1995 and \$6.8 billion from 1995 to 1999 compared with the Administration's plan.

Any reduction in the carrier fleet and associated air wings would obviously diminish U.S. ability to respond to crises and project power worldwide. The military capability of carrier battle groups cannot be provided by long-range bombers or task forces composed of other types of surface ships. With annual operating costs of \$900 million (in 1995 dollars) for each carrier battle group, however, this tool may be too expensive to retain.

### Rely Primarily on Army Systems for Theater Missile Defense

In the past, the Army has been the service assigned the mission of defending specific and limited geographic areas or locations from air attack. For this reason, the Army developed various air defense systems designed to protect areas of different sizes, including civilian populations as well as its own forces. The Air Force and the Navy designed air defenses primarily to protect their own forces--aircraft carry air-to-air missiles to shoot down other aircraft, and ships have guns and missiles designed to ward off airborne threats. Each of the services' air defenses can protect areas and populations by shooting down aircraft on the way to their targets. The Army, however, developed and fielded systems specifically designed to defend land masses of various sizes. Now, each of the services--the Army, the Navy, and the Air Force--is developing the means to defeat enemy theater ballistic missiles.

This option would give the Army primary responsibility for defending areas against theater ballistic missiles by terminating funding for Navy and Air Force systems in favor of those that the Army is pursuing. In particular, it would terminate work on the Navy's point and area defenses and cancel two Air Force programs, one developing the Brilliant Eyes space-based sensors and one developing boost-phase interceptors. It would also reduce general support funds in the theater missile defense (TMD) effort that are not tied to specific programs. Work would continue on the Army's two systems for point defense--Corps Surface to Air Missile (SAM) and Patriot--and its Theater High-Altitude Area Defense (THAAD) system. Savings would amount to \$600 million in 1995 and \$3.8 billion over the next five years compared with the Administration's plan.

This option would favor the Army's land-based systems over the Navy's sea-based systems partly because of traditional roles and missions, but also because they can provide defensive capability well inland as well as for areas close to the coast. At the same time, sea-based systems are limited in their ability to provide a defensive umbrella over land. This coverage can be limited even further if the ships on which the defenses are mounted are forced off-shore by hostile antiship weapons.

Conversely, sea-based defenses--both point and area defense systems--can provide protection for forces ashore before land-based systems have been deployed through ports or airfields. Indeed, sea-based defenses can protect ports or coastal areas as land forces arrive in theater. In addition, under certain conditions ship-based area defenses can be positioned between an adversary and its potential target--between North Korea and Japan, for example--thereby providing much more extensive coverage than would be possible with land-based defenses. Canceling all sea-based defenses would eliminate these capabilities.

A less drastic change to the Administration's theater missile defense program would limit naval TMD systems to those designed to defend small areas--the Navy's point defense systems. By canceling only the Navy's area defense system, this approach would provide more flexibility for deploying TMD systems and allow the use of either land- or sea-based point defenses in a conflict. This less drastic reduction in the TMD program would deploy Army point and area defenses, and develop Navy point but not area defenses. Savings compared with the Administration's plan would be more modest--about \$400 million in 1995 and just under \$2.6 billion from 1995 through 1999--but additional flexibility would be gained.

## **CONCLUSION**

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**This paper focuses on options that would reduce the cost of the U.S. military establishment by eliminating some of the forces and activities that exist in more than one service and that duplicate each other. The impact of the reduction on total U.S. military capability is not evaluated in a quantitative way. Although implementing all of the consolidations in support activities that are mentioned in this paper would probably not significantly affect overall U.S. military capability in an adverse way, the same cannot be said for the combined effect of all the reductions in conventional forces. Therefore, the increased savings that would result from adopting more than one of the options should be weighed against the combined effect of the potential loss in capabilities.**

## **CHAPTER I**

### **INTRODUCTION AND BACKGROUND**

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The international political landscape has changed in the past three years at a dizzying speed. Unimaginable five years ago, the United States is now the sole world superpower and faces threats to its national security that are much less formidable than those posed by the former Soviet Union. Nevertheless, the roles and missions assigned to the military services have remained essentially unchanged since 1948, when they were negotiated among the service representatives at a meeting in Key West, Florida. Several defense experts have recently called for a review of these established roles and missions, arguing that restrictions on funds for defense, coupled with the drastic changes in the national security environment that have occurred in the past few years, demand a reassessment of practices that are now almost 50 years old.

### **SENATOR NUNN'S SPEECH**

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In July 1992, Senator Sam Nunn, Chairman of the Senate Committee on Armed Services, delivered a speech on the Senate floor that has since framed the debate concerning the roles and missions appropriate for each of the services.<sup>1</sup> Senator Nunn asserted that the roles and missions assigned to the services are not sufficiently well defined to avoid duplication and redundancy among the assets and capabilities fielded and developed by each of the services. As a result, the Department of Defense (DoD) spends billions of dollars every year fielding duplicative forces and purchasing weapon systems that are redundant.

#### **Contingency or Expeditionary Ground Forces**

Senator Nunn questioned the need for multiple divisions designated for rapid reaction or contingency operations in both the Army and the Marine Corps. The Army includes four divisions that are configured without heavy equipment so that they can be transported easily. All three of the Marines' divisions are designed to respond to contingencies. Without sufficient airlift to move these units from their peacetime locations to hot spots in a timely fashion, it may

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1. Senator Sam Nunn, "The Defense Department Must Thoroughly Overhaul the Services' Roles and Missions," *Congressional Record*, July 2, 1992, p. S9559.

be difficult to justify retaining such a large number of units designated for rapid response.

Another issue that has been raised is the possibility of having the Army, which fields thousands of tanks and hundreds of pieces of large artillery, provide all armor and heavy artillery support for the Marines. The Marine Corps, encompassing three divisions in total, is much smaller than the Army, which fields 12 active divisions. Furthermore, since the Marines are designed for amphibious assault, their units contain small numbers of heavy armor and artillery. If the Army were to provide all ground forces with armor and artillery support, it has been argued, then the Marines could concentrate on their unique capabilities and not duplicate, on a small scale, those the Army already possesses.

### Projection of Air Power

To highlight the overlapping roles of the services within the U.S. military, Senator Nunn referred to former Senator Goldwater's statement that the United States is the only country with four air forces. When discussing ways to reduce duplication in the tactical air forces, Senator Nunn mentioned two missions as deserving consideration--power projection and air support for the Marine Corps.

Power projection is the ability to attack targets around the world with conventional munitions. The United States currently has the ability to conduct such attacks using either land-based Air Force aircraft or carrier-based naval bombers.<sup>2</sup> Since the United States is unlikely to have to stage a massive attack on numerous targets that would require all of both the Navy and Air Force aircraft simultaneously, as was envisioned in the event of all-out war against the former Soviet Union, it may be possible to reduce duplication in forces fielded for this purpose.

The second issue addresses the need to provide the Marines with air coverage while they conduct their operations on land. Currently, the Marines have their own aircraft for this purpose. As has been pointed out, however, the Marines will invariably enter combat either underneath a general Navy air defense umbrella or as part of a combined arms operation with joint Air Force and Navy air coverage. In either case, some of the Marines' aircraft duplicate the capabilities provided by the Air Force and Navy.

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2. As was demonstrated in Operation Desert Storm, it is also possible to attack land targets using cruise missiles launched from surface ships and submarines.

### Helicopter Forces

In addition to fixed-wing aircraft, each of the services operates rotary-wing aircraft, or helicopters, with the Army's helicopter fleet being by far the largest. Seven years ago, the Air Force and Army chiefs of staff recommended transferring all helicopter operations to the Army. In the face of declining resources, perhaps such a transfer should be reconsidered.

### Functional Organizations and Activities

Each of the services operates and maintains its own version of a common activity in several areas. These areas include initial training of pilots for both fixed- and rotary-wing aircraft; medical corps, chaplains, and legal departments; and logistics and support activities such as maintenance depots. Senator Nunn questioned whether such separate but duplicative structures are efficient and speculated that some consolidation might be possible and could save money.

The Senator raised these and several other concerns in an effort to broaden the debate surrounding the restructuring of the defense establishment in the wake of the Cold War. He challenged the Chairman of the Joint Chiefs of Staff (JCS) and the Department of Defense to initiate a far-reaching review of past and current practices. He asked that the services not continue to plan for a future force that, while smaller than today's, maintains the same configuration. Rather, he said, they should build a force that is less expensive than today's and is not bound by the constraints of roles and missions established in 1948.

### RESPONSE OF THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

The Chairman of the JCS responded to Senator Nunn's call for a review of the roles and missions of U.S. armed forces in his triennial report--issued in February 1993--required by the Goldwater-Nichols Act. In a published report, then Chairman of the Joint Chiefs, General Colin Powell, responded by summarizing changes the military had made in response to the changing strategic landscape and outlining what the services would do in the future to address shifting roles and missions.

### Justifying the Basic Principles Underlying Current Roles and Missions

The Chairman strongly defended the need for redundancy and duplication in the capabilities retained by the services. Specifically, his report argued that "the availability of similar but specialized capabilities allows the combatant commander to tailor a military response to any contingency, regardless of geographic location."<sup>3</sup> The report likened the layered capabilities of the armed forces to the layered and complimentary safety devices in modern automobiles. Although redundant safety features might raise the price of a car, economics is not the only factor considered when purchasing or designing an automobile, he argued. This, too, is the case with U.S. military forces, General Powell reasoned, with history supporting the wisdom of having purchased similar but specialized capabilities among the services.

Although not explicitly addressed in General Powell's report, the military today might raise another broad concern about consolidating roles and missions. Many consolidations, especially those that result in substantial cost savings, would eliminate forces in one service and depend instead on forces in another service. As a result, the United States would have a smaller number of total forces than is currently planned. Further reductions in forces could affect the ability of the United States to fight two major regional contingencies nearly simultaneously, a goal of the Administration's national security policy.

Although arguing that broad consolidations of roles and missions are not desirable, General Powell did indicate that some changes have already been made and that others should be studied.

### Some Minor Changes Have Already Been Made

The services have already consolidated some functions and eliminated some redundant and duplicative organizations. Most of these consolidations, however, have required only minor changes in the way the services do business. They include consolidating commissary operations in one overall defense agency, rather than having three separate service agencies, and consolidating several naval labs. The most significant consolidation has probably been in the intelligence function, which also eliminated some intelligence organizations. However, General Powell did not recommend action on many consolidations and changes in the way the services do business

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3. Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993), p. I-6.

that have been suggested by defence experts in the past. Furthermore, no major changes have been made in service combat forces.

### Some Additional Changes Deserve Consideration

Although General Powell recommended no fundamental changes in current service roles and missions, he did acknowledge that reductions could be made in some areas.

**Air Power.** General Powell's report addressed several issues involving the air forces deployed by the various services. He recommended retaining the capability to conduct air strikes using either or both of the Air Force's land-based aircraft and the Navy's carrier-based aircraft. General Powell did acknowledge, however, that although the United States should retain all the types of air forces that it currently fields--those of the Air Force, Navy, Marines, and Army--the size of the forces could shrink as some missions are reduced or deleted or if certain missions performed by more than one service can be combined.

Recognizing the potential for change, General Powell recommended eliminating or sharply reducing the forces dedicated to the air defense of North America. This recommendation would affect the 180 interceptor aircraft now assigned to defend the continental United States from air attack. General Powell felt that, in the absence of a major threat for the foreseeable future, this mission could be performed by other Air Force, Navy, or Marine Corps aircraft stationed in the United States. Thus, he recommended disbanding most or all units currently dedicated to this mission, or reassigning them to other parts of the Air Force.

General Powell also suggested changes in the structure of Marine tactical aviation forces. Although his report included recommendations for retaining some dedicated Marine Corps fixed-wing aircraft, it also acknowledged that during many Marine Corps operations, Navy aircraft would also probably be available. Thus, General Powell recommended reducing both the number of types of aircraft that the Marine Corps fields--from nine to four--and the number of Marine tactical air squadrons.

**Ground Forces.** General Powell's report did not include any suggestions for major changes in U.S. ground forces. It did conclude, however, that two issues deserve further study and that some changes merit exploration. In particular, although he emphasized again the need for redundancy between the ground combat forces fielded by the Army and the Marine Corps, General

Powell did acknowledge that the size of those forces might be reduced. The report raised the specific possibility of future reductions in the Army's light infantry forces, though not their total elimination.

Another issue involved the possibility of removing all heavy armored vehicles—including tanks and artillery—from the Marine Corps and assigning the Army the task of providing such forces when needed. General Powell reiterated the need for the Marines to retain their tanks, but acknowledged that there might be advantages in assigning the Army responsibility for providing all heavy artillery support for the Marines. He recommended that this course of action be the subject of extensive and detailed study to ensure that such a change in roles and missions would be cost-effective.

Helicopter Forces. General Powell repeated the need for the services to retain their individual helicopter fleets, asserting that each service has unique needs and missions for its helicopters. Some defense experts have suggested that it might be more efficient to assign the operation of all helicopter forces to the Army than to have each of the other services retain small fleets for general support purposes. Nevertheless, according to the Chairman's report, the services need their helicopters to perform service-specific tasks such as anti-submarine warfare, search and rescue operations, command and control, and medical evacuations. For non-service-specific tasks, such as courier service and transportation, General Powell recommended consolidating helicopter operations under one service in cases where many services operate in the same geographic area, such as Washington, D.C. He did not, however, recommend any significant reductions in force.

Functional Organizations and Activities. General Powell suggested taking several actions in the area of support activities, specifically maintenance depots and initial pilot training. He recommended against consolidations, however, in some areas where Senator Nunn had suggested changes might be possible, including the chaplain and legal corps.

General Powell's report addressed the issue of depot maintenance in some detail. It stated that depot maintenance is a large undertaking in the Defense Department, employing about 130,000 civilian and 2,000 military personnel at 30 major facilities as of February 1993. The services spend \$13 billion annually to rebuild, refit, and maintain more than 700,000 pieces of equipment at these facilities. The four services have devised this network to meet each of their needs in a protracted global war, independent of the other services' capabilities. General Powell acknowledged that, in a time when regional conflicts of shorter duration are more likely, the depot system can be reduced and restructured to achieve budgetary savings. As a result, he

recommended that the Department of Defense consider establishing a Joint Depot Maintenance Command and the possibility of closing 7 or 8 of the 30 military depots that existed at the time the report was published.

Another support area in which General Powell recommended consideration of serious change was initial pilot training. Each service currently operates its own training school for fixed-wing pilots and another for helicopter pilots. Initial flight training does not differ much as a function of service, however. Indeed, the Air Force and the Navy are purchasing the same trainer aircraft on which to teach their pilots to fly. After initial training, each service conducts advanced training courses to teach its pilots how to operate each type of aircraft peculiar to that service and to perform specific types of missions and operations. General Powell, acknowledging that duplication exists at many levels in the services' efforts to train their pilots, recommended that the Navy, Marine Corps, Air Force, and Coast Guard consolidate their initial fixed-wing training courses and use a common aircraft for training pilots. He recommended consolidating advanced training for similar missions and studying the concept of consolidating initial helicopter pilot training at the Army's aviation school.

In summary, although General Powell did recommend some changes in the U.S. military, those changes did not reflect a fundamental change in service roles and missions. His report was more notable for its justification of duplication and redundancy of capability among the services than for its review of practices that are almost 50 years old. Although the report recommended consolidating some mainly support activities and called for the study of some changes in service missions--again mostly in supporting roles--it primarily endorsed the status quo.

### Changes Made After Publication of General Powell's Report

The Administration's 1995 budget request for the Department of Defense reflected changes that the services have made after General Powell issued his report. In two areas--artillery support for the Marines and naval tactical aircraft--the services have altered their plans, in part to reduce overlap with other services. The Marines have canceled their plans to purchase heavy artillery pieces to support their ground forces and will instead rely on the Army to provide this coverage. As for naval aviation assets, the Navy is reducing the number of fighter aircraft that it plans to station on its aircraft carriers and is replacing them, instead, with Marine tactical aircraft. These two initiatives will reduce anticipated overlap between capabilities of the

Army and Marine Corps in one instance, and the Marine Corps and the Navy in the other, and result in greater efficiency and lower costs in the future.

## **QUESTIONS REMAIN**

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Some Members of Congress, including the Chairman of the House Committee on Armed Services, have called for consideration of more far-reaching changes. In response to such concerns, the Congress, in its bill authorizing defense spending for 1994, established an independent commission to study the military services' roles and missions. This commission, to be composed of private citizens appointed by the Secretary of Defense, will review service functions and roles, as well as the military support establishment. After a year of work, the commission will submit a report to the Congress setting forth its findings and recommendations concerning alternative allocations of service roles, missions, and functions.

The current fiscal constraints facing DoD provide an added impetus for a review of service roles and missions. Members of the Administration have admitted that the military's costs exceed its budget over the next five years by some \$20 billion. If, as some critics have stated, the present allocation of service roles and missions is redundant and wasteful, costing the Defense Department billions of dollars annually, then eliminating the redundancy could reap significant savings. In these times of fiscal constraint, it may be time to reassess whether the services need to continue doing business as they have for the past 50 years and keep paying for what may be unnecessary duplication.

### **Support Functions**

Although General Powell recommended some changes and consolidations in support structures and activities, the changes were not far reaching. In the case of depots, his report recommended studying the consolidation of depots across service lines and establishing one Joint Depot Maintenance Command. General Powell did not recommend taking action, however, even though a previous JCS study of September 1992 noted that unnecessary duplication existed throughout the depot system, especially when viewed across service boundaries.

An example is the various depots for maintaining aircraft operated by each of the three services. With decreased force size, some excess capacity almost certainly exists within individual service depot systems. Consolidating

all aeronautic work under one service--such as the Air Force--would allow the facilities used the least to be closed, thus saving money in the long run. The amount of excess capacity within the services and the size of the initial investment needed to consolidate several depots are issues that need further exploration, however.

General Powell also examined the possibility of consolidating training activities, particularly those for pilots just learning to fly airplanes and helicopters. Again, he recommended some small initial steps and studying the possibility of more far-reaching changes. Issues that impede the consolidation of training across service lines involve different requirements that each service has established at differing stages in a pilot's development. For instance, Navy helicopter pilots must complete fixed-wing instrument training as part of their training to become helicopter pilots. These impediments to consolidation result from differences in service practices, some of which are based on mission requirements and others solely on tradition and past practice. More research is needed, however, before such distinctions can be made.

Finally, Senator Nunn raised the issue of consolidating service medical corps. General Powell did not address this issue, but recommended against consolidating similar functions such as the services' legal and chaplain corps on the grounds that it would not result in significant savings and would have a negative affect on the delivery of services. The medical delivery system within DoD, as elsewhere in this country, is undergoing profound evaluation and changes and may indeed be a candidate for consolidation.

Consolidating support functions would require identifying facilities that are not being used to capacity and should be closed, as well as facilities appropriate to house newly consolidated activities. Consolidating functions such as depot maintenance could involve costly transport of unique machines and equipment across country to new locations. Many consolidations, although reaping savings in the long term, might require investments in the short term. At the request of the Senate Budget Committee, the Congressional Budget Office is conducting the analyses required to quantify short-term costs and long-term savings associated with consolidations of support functions. These analyses of several support areas, including depot maintenance, pilot training, and medical care, are not yet complete and so are not included in this paper.

### Conventional Forces

General Powell stressed in his report the need to have flexible forces that can be available to any commander wherever and whenever they might be needed. This flexibility, he felt, justified the currently redundant and duplicative forces within the various branches of the U.S. military. The ability to tailor forces so precisely, however, may not be affordable or necessary in the future. As demonstrated in Desert Storm, U.S. forces enjoy such superiority on an individual service basis that not even all those deployed to theater during that operation were used. Although available to the commander should he have needed them, U.S. forces in theater during Desert Storm demonstrated just the sort of redundancy and duplication that Senator Nunn addressed in his speech.

## **CHAPTER II**

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### **ILLUSTRATIVE CHANGES TO CURRENT**

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### **CONVENTIONAL FORCES TO REFLECT REVISED**

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### **ROLES AND MISSIONS**

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The debate over consolidating roles and missions will most likely continue. The balance of this paper examines in some detail the issue of duplication among U.S. conventional forces--those designed to fight nonnuclear wars such as Operation Desert Storm. These forces represent the most costly portion of U.S. military forces. To provide information for the ongoing debate, this paper presents several illustrative options that would constitute more far-reaching changes in service roles and missions than those the Chairman of the Joint Chiefs of Staff recommended.

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### **RELY MORE ON THE MARINE CORPS FOR EXPEDITIONARY OR CONTINGENCY FORCES**

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The Army and the Marine Corps both field forces designed to conduct combat on land, though their missions are slightly different. According to General Powell, the Army's role is to "organize, train, and equip forces for the conduct of prompt and sustained combat operations on land--specifically, forces to defeat enemy land forces and to seize, occupy, and defend land areas."<sup>1</sup> Similarly, the Marine Corps's role is to train, organize, and equip forces "to provide Fleet Marine Forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of land operations as may be essential to the prosecution of a naval campaign" (see Box 1).<sup>2</sup> Although both types of forces are designed to fight on land and do share some common equipment, the combat units of the Marines and the Army differ, as do their fighting philosophies and many of their weapons. Nevertheless, there is sufficient overlap between the two, particularly in expeditionary forces, to question the need for similar forces in two different services.

The active portion of the U.S. Army consists of 12 divisions, 8 of which are generally regarded as "heavy"--that is, equipped with tanks and other armored vehicles. The eight heavy divisions, which the Army is planning to

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1. Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993), p. III-35.

2. *Ibid.*, p. III-35.

**BOX 1.**  
**CURRENT SERVICE ROLES AND MISSIONS**

**Roles:** Broad and enduring purposes for which the Congress established the services.

**Army.** Organize, train, and equip forces for prompt and sustained combat on land.

**Navy.** Organize, train, and equip forces for prompt and sustained combat on and from the sea.

**Air Force.** Organize, train, and equip forces for prompt and sustained offensive and defensive air operations.

**Marine Corps.** Organize, train, and equip forces for service with the fleet in the seizure or defense of naval bases, and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.

**Missions:** Tasks assigned by the President or Secretary of Defense to the commanders in the field.

Typical missions assigned to the services are:

**Army**

- o Seize and defend enemy air bases, ports, and other key facilities.
- o Conduct large-scale armored operations.
- o Provide humanitarian aid and disaster relief.

**Navy**

- o Attack targets on shore from the sea.
- o Promote regional stability and ensure timely response to crises using forward-deployed and forward-based forces.
- o Deploy and sustain U.S. combat forces overseas through resupply and prepositioning.

**Air Force**

- o Defend the United States, its forces, and allies from air attack.
- o Provide close air support to ground forces.
- o Attack enemy assets such as transportation infrastructure and resupply facilities.

**Marines**

- o Conduct amphibious assaults.
- o Seize and defend enemy air bases, ports, and other key facilities.
- o Conduct noncombatant evacuation operations and hostage rescue.
- o Provide humanitarian aid and disaster relief.

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**SOURCE:** Congressional Budget Office based on Les Aspin, Secretary of Defense, *Annual Report to the President and the Congress* (January 1994); private communication from Marine Corps; and Chairman of the Joint Chiefs of Staff, *Report on the Roles, Missions, and Functions of the Armed Forces of the United States* (February 1993).

reduce to six divisions in the next five years, are primarily intended to be used against other armored forces. The other four divisions, referred to as "light" divisions, are useful against less heavily armored forces and were designed to be dispatched quickly and transported easily to trouble spots around the world. They include one airborne division, one air assault division, and two light infantry divisions (LIDs).<sup>3</sup>

The active portion of the Marine Corps includes three divisions, but Marine units are designed to be deployed in task forces, which typically include a Marine ground unit plus its accompanying air support. Thus, when Marine units are dispatched to trouble spots, they usually are sent as combined arms teams that include both air and ground forces.

Since the Army is reducing the size of its heavy forces during the next five years, the greatest area of duplication between the Army and the Marines that will remain will be in lighter forces. These forces could be consolidated by eliminating some of the Army's units designed to be dispatched quickly to trouble areas, and instead relying on the Marines for rapid reaction. Retaining Marine expeditionary forces in preference to Army forces may be justified since the utility of the Army's light infantry divisions can be debated--and indeed has been since their creation nine years ago. The Reagan Administration justified the LIDs by emphasizing the need to respond to events anywhere in the world by rapidly dispatching U.S. forces. But history indicates that the United States may not need all of these divisions. Between 1945 and 1978, 215 incidents required some sort of U.S. military action, but only about 5 percent of them required a force of division size or larger. One can argue that other units--including the Army's airborne and air assault forces and the Marine Corps's three divisions--provide sufficient rapid response.

Other questions arise about the capability of the LIDs once they have been transported, presumably to a hostile location. With 870 jeeps, 135 motorcycles, and 41 utility helicopters for transportation, a light infantry division has limited mobility, and most of its 10,000 to 11,000 soldiers would have to move by foot. A LID also has limited firepower, particularly against an enemy with any kind of armored vehicles. Each division has only 44 long-range antiarmor missile launchers, 62 howitzers, and 29 armed helicopters; the most numerous antiarmor weapon in the LID--162 Dragon medium-range antitank missile launchers--has limited capability against modern tanks.

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3. The Army also includes approximately 15,000 soldiers in its Special Forces Branch. Special operations forces are designed to perform quick insertions and covert operations, as well as numerous other tasks. These forces are lightly equipped and easily deployed.

Marine divisions, in contrast, contain much more firepower and more transportation assets, particularly when deployed as part of a task force. Specifically, each division includes 44 tanks, 110 light-armored vehicles, and 96 155mm howitzers. In addition, each task force's air wing includes 24 attack helicopters and 60 Harrier aircraft. Thus, although not designed to combat a heavily armored foe or move rapidly over terrain, Marine forces are more adequately prepared to face a wider range of threats than are the Army's light infantry divisions.

Perhaps the Department of Defense made the strongest statement about the utility of the LIDs in combat when it failed to use any light infantry forces during Operation Desert Storm. That conflict occurred halfway around the world with very little warning and was initiated by a foe who was relatively unsophisticated compared with the forces of the former Soviet Union against which the U.S. military was designed to fight. The need to establish some military presence in theater very rapidly seemingly would have argued for the use of light infantry forces. Nevertheless, none of the LIDs was deployed.

Another telling experience has been that of the 10th Mountain Division--a light infantry division--in Somalia. The division's firepower and protection proved to be inadequate against even the unsophisticated and poorly equipped troops of a Somali warlord. As a result, elements of an Army heavy division were dispatched to Somalia to provide armored protection to U.S. forces there.

Despite the fact that the LIDs were designed to be deployed by air, the divisions are more likely to be transported by sea because of a shortage of airlift assets and the need to move other assets first. In any crisis, airlift will probably be devoted first to moving support equipment for tactical air forces, air defense units, and other Army units such as the 82nd airborne and 101st air assault divisions. Thus, the advantage that the LIDs might have over Marine units--rapid response and deployability--would be negated by their dependence on sealift.

In light of the capability for rapid response in the Marine Corps and elsewhere in the Army, one could also raise questions about the Army's need for both an airborne and an air assault division. The former is designed to be dropped by parachute into hostile territory when no seaport or airport is available for debarkation; the latter is designed to be deployed by helicopter to relatively remote locations, although the deployment must be staged from a protected area. The United States has not conducted a parachute assault involving an entire division since World War II. It carried out drops including one brigade--about one-third of a division--in Korea and Vietnam and in

Panama in 1990. In Operation Desert Storm, portions of the 82nd Airborne were sent to the Middle East early in the operation, but they did not parachute in and, once reinforced by later-arriving heavy combat units, were assigned supporting roles and were not involved in any major battles.

Additional paratroop-qualified units exist in the special forces branch of the Army, which, at 15,000 soldiers, is about the same size as a division. Special forces units are used to perform tasks such as covert operations and strikes deep behind enemy lines. All special forces personnel are qualified for parachute drop. Therefore, an entire division designed to be dropped by parachute, such as the 82nd, may represent more capability for parachute drops than the United States now needs.

One could conclude from this discussion that the Marine Corps could perform the mission assigned to the Army LIDs, and that the specialized mission of the 82nd Airborne is no longer likely to be performed on a large scale. Thus, one way to illustrate the savings from eliminating these overlapping or outdated capabilities would be to eliminate all but one of the remaining light divisions from the Army's active forces. Forces disbanded would include two light infantry divisions and portions of the airborne and air assault divisions. To achieve an orderly drawdown, one division would be eliminated each year, starting in 1995. The option would retain one airborne division consisting of two air assault brigades and one airborne brigade. About 70,000 soldiers, including both personnel directly associated with the divisions and people who support them, would be eliminated from the active Army. Compared with the Administration's defense plan, total savings would be \$520 million in 1995 and \$14.5 billion through 1999 (see Table 1).

**TABLE 1. SAVINGS RESULTING FROM RELYING MORE  
ON THE MARINE CORPS FOR EXPEDITIONARY FORCES**  
(By fiscal year, in millions of dollars of defense budget authority)

Change	1995	1996	1997	1998	1999	Total
Reduce Number of Army Light Divisions	520	1,810	3,170	4,220	4,740	14,460

SOURCE: Congressional Budget Office based on Department of Defense data.

Despite these savings and the shortcomings of the light infantry divisions, eliminating them would reduce U.S. defense capability in certain situations. For example, LIDs might be useful for defending areas such as airports or seaports before other forces arrived if the enemy did not have armored capability. Eliminating some of the Army's light forces would make the U.S. military rely more heavily on the Marines for quick response to crises and in contingency operations.

### REDUCE AIRCRAFT ASSIGNED TO SUPPORT GROUND FORCES

Ground forces typically do not conduct operations without air support. Air cover is needed for two reasons--to prevent enemy aircraft from attacking the forces on the ground and to attack enemy targets, such as command centers and supply points, that are beyond the reach of ground-based artillery. Each of the services, however, operates aircraft of some type. Thus, the United States has redundant capabilities for providing air support to ground forces.

#### Make the Army Responsible for Its Own Close Air Support and Battlefield Interdiction

General Powell's report referred to the issue of providing close air support to ground forces as the one aspect that has probably spawned the most debate about roles and missions since the Key West agreement. Close air support (CAS) is "air action against hostile targets which are in close proximity to friendly forces."<sup>4</sup> Battlefield interdiction (BI)--or battlefield air interdiction when Air Force aircraft perform it--is a similar mission, but does not involve targets that are close to friendly forces. Rather, BI, as defined for purposes of this paper, includes attack by whatever means on those targets that could affect the course of the battle in the short term, such as artillery pieces and forces moving into battle.

These missions have traditionally been carried out by aircraft, and the Chairman of the JCS has stated that aircraft from each of the services have the ability--and indeed the responsibility--to conduct close air support missions. Currently, two services--the Army and the Air Force--share primary responsibility for providing CAS to the Army. In addition, the Navy and the Marine Corps have been assigned provision of CAS for the Army as a collateral mission for their air assets. Thus, in this area, the services have

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4. Chairman of the JCS, *Report*, p. III-15.

multiple layers of redundancy when it comes to providing air support to the Army's ground forces.

Even though the Air Force has been assigned the responsibility to provide CAS to the Army for the past 50 years, several defense experts have expressed concerns and doubts about the willingness or ability of the Air Force to provide adequate air support to the Army. The Air Force does have an airplane dedicated solely to CAS--the A-10--but doubts about the Air Force's enthusiasm for the CAS mission may have been fueled by the Air Force's periodic attempts to eliminate all of the A-10s from its force structure. Today, the Air Force retains 144 A-10s, but the number has declined substantially from the 400 that the Air Force fielded in 1988. Moreover, half of these remaining aircraft are in the reserve components.

The Air Force has traditionally allotted 25 percent of its fighter aircraft to the CAS and BI missions. As the number of A-10s declined, the Air Force assigned increasing numbers of its F-16s to these missions. Since the F-16s are multirole aircraft, however, they are not likely to be as well suited to the CAS mission as the A-10, which was designed specifically for that mission. In addition, the F-16s could be called on to perform other missions of more importance to the Air Force than CAS. All of this highlights the concerns Army commanders could have that Air Force aircraft might not be available when the Army needs them to provide air support.

Perhaps in response to this concern, the Army has developed and fielded its own weapons capable of attacking ground targets beyond the reach of direct-fire weapons such as tanks. The premier example of such a weapon is the attack helicopter, which can attack armored as well as soft targets and performed ably in Operation Desert Storm. In addition, the Army is developing fire-support weapons with increasingly long ranges and precision guided munitions capable of attacking some of the BI targets previously accessible only by aircraft.

With the Army fielding hundreds of attack helicopters and increasingly sophisticated fire-support weapons, it may be possible to relieve the Air Force of the primary responsibility for providing CAS. This change would simplify operations since the Air Force would not have to coordinate its air strikes so closely with the Army in order to avoid attacking friendly troops. Moreover, the Air Force could retire all of its A-10s and reduce the number of types of aircraft in its inventory, thereby realizing some budgetary savings. The Army would use its currently planned level of forces--attack helicopters and artillery--to attack targets that might today be assigned to Air Force aircraft.

To illustrate possible savings, the Air Force could eliminate all of the aircraft in its force structure dedicated to CAS and BI. Assuming that these aircraft make up 25 percent of the Air Force's total fighters, this reduction would include all of the A-10s (144 aircraft) and about one-third of the F-16s (216 aircraft) for a total of five wings. Compared with the Administration's plan, annual savings would be on the order of \$140 million in 1995 and \$3.2 billion over the next five years (see Table 2).

Reducing the size of the Air Force by 25 percent might, however, overly restrict the Air Force's flexibility. Eliminating one-third of the service's F-16s could cut too deeply into the Air Force's overall structure and prevent it from being able to carry out other missions. Since the F-16 is a multirole aircraft, it would be able to perform other missions, even if it were no longer required to provide direct battlefield support to the Army. Thus, eliminating only the A-10s from the Air Force would leave the service with maximum flexibility and capability, without the need to dedicate assets to CAS. The budgetary savings from such a modest reduction to the Air Force would also be modest, less than \$500 million per year when fully implemented compared with the Administration's plan.

**TABLE 2. SAVINGS RESULTING FROM ILLUSTRATIVE CHANGES IN TACTICAL AIR FORCES SUPPORTING GROUND FORCES**  
(By fiscal year, in millions of dollars of defense budget authority)

Change	1995	1996	1997	1998	1999	Total
<b>Make the Army Responsible for Its Own Close Air Support</b>						
Eliminate five Air Force wings	140	340	610	930	1,170	3,190
Eliminate two Air Force wings	140	340	440	470	490	1,880
<b>Reduce Navy Aircraft in Support of Marine Operations</b>	40	110	200	280	380	1,010

**SOURCE:** Congressional Budget Office based on Department of Defense data.

Shifting primary responsibility for close air support and battlefield interdiction solely to the Army and eliminating Air Force assets assigned to these missions would, of course, have its disadvantages. Having multiple means of attack is a distinct advantage for a commander because it forces the enemy to defend itself from multiple threats. Thus, if the United States can attack its enemies with fixed-wing aircraft, helicopters, and artillery all at once or in rapid succession, the defender's task becomes that much harder.

Another drawback to eliminating all CAS-dedicated aircraft from the Air Force is that it forfeits the quick reaction and deployability inherent in aircraft. Oftentimes aircraft are the first assets in theater, since additional time is needed to transport Army equipment, including helicopters, to trouble spots. With fewer aircraft capable of CAS in the Air Force inventory, delays may occur before significant assets arrive in theater to perform the CAS mission. And a major lesson some observers have drawn from Operation Desert Storm is that air power can slow or even stop the advance of enemy ground forces. Sharply reducing the number of U.S. aircraft capable of performing the CAS mission would eliminate many of those aircraft that contributed to an early victory in the Gulf War at the cost of few American lives.

### Reduce Navy Aircraft in Support of Marine Operations

The Department of the Navy--a microcosm of the Department of Defense--has an army (Marine Corps ground forces) and a navy. By some measures it also has two air forces. One comprises a fleet of aircraft that operate from aircraft carriers and are flown by naval pilots.<sup>5</sup> Marine Corps pilots operate the other air force. They fly their planes from land bases, from the large amphibious ships the Navy uses to transport Marine Corps forces, or from the Navy's aircraft carriers.

If the United States had fought a conventional war with the former Soviet Union, these two air forces would have performed distinct missions. Carrier-based aircraft would have defended carriers against attack by Soviet bombers and conducted attacks against some critical Soviet forces based in out-of-the-way places--for example, strategic submarine bases in the far north of the former Soviet Union. Carriers and their aircraft would also have protected convoys carrying troops and equipment from the United States to Europe from attack by Soviet submarines. Marine Corps air power would

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5. The Navy also operates a number of aircraft from land bases that are intended to find and attack enemy submarines in war.

have supported Marine ground forces fighting the Warsaw Pact on NATO's northern and southern flanks. The Marine Corps might have received some air support from aircraft carriers during their operations, but that support was not certain given the myriad other duties the carriers were expected to perform.

In the post-Cold War period, Navy and Marine Corps missions for their aircraft begin to coincide. The United States no longer confronts highly capable threats from submarines or other naval forces. Nor do the countries that seem most threatening today--on which the United States bases its military planning--have highly capable bombers. Thus, the Navy has shifted its mission. It, too, plans to emphasize assisting Marine Corps ground forces in regional contingencies by protecting them from attack by enemy aircraft and attacking enemy forces on the ground.

In addition to providing the same services, these fleets operate the same type of airplane, the single seat version of the F/A-18. The F/A-18, a fighter aircraft that carries air-to-air munitions, also has the capacity to bomb targets on the ground. Under the Administration's plans, the Navy will have 11 air wings for its 12 carriers. Each of these wings will eventually contain 36 single-seat F/A-18s, for a total of about 390 aircraft. Some of these aircraft--a total of 84--will be provided by the Marine Corps, which operates 16 squadrons of F/A-18s that include 12 planes each of a model identical to the Navy's. The Navy is planning to introduce Marine Corps aircraft into its carrier air wings to reflect the increased integration of Navy and Marine Corps operations.

This option proposes gradually cutting 10 of the Navy's F/A-18 squadrons--2 per year over the period from 1995 through 1999. Existing Marine Corps squadrons would then replace the Navy squadrons in the carrier air wings as naval squadrons are cut. The Navy has proposed using Marine Corps aircraft to flesh out its wings in the past, though in more modest numbers. For example, the Navy originally intended to use Marine Corps A-6s--medium-range bombers that are being phased out of naval air wings--to bridge a shortfall in its bomber fleet until delivery of the A-6's intended successor. And the Navy is planning to use some Marine Corps F/A-18 squadrons to fill gaps in its carrier air wings in the near future.

The gradual decline in forces illustrated here should give the Navy and Marine Corps time to evaluate the operational feasibility of this concept. It would, however, produce smaller savings than a more rapid reduction. Operating savings would amount to \$40 million in 1995 and total slightly more than \$1 billion through 1999 compared with the Administration's plan (see Table 2). Actual operating savings might be somewhat lower, since the Navy

might need to increase the training offered to Marine Corps pilots in those squadrons that operate from aircraft carriers. Acquisition savings would also result since the Department of the Navy would need to procure fewer tactical fighter aircraft. Although the Congressional Budget Office has not estimated the magnitude of these savings since they would not be fully realized for a number of years, they could be as high as \$11 billion.

This cut should still leave the Marine Corps and the Navy with acceptable levels of military capability. The Marine Corps planned to provide its own air capability during the Cold War and did not count on the presence of Navy aircraft. But carriers are likely to remain available to support Marine operations during regional conflicts. Thus, Marine Corps F/A-18 squadrons could continue to operate off of the aircraft carriers throughout the conflict. Also, the threat posed by potential adversaries in regional conflicts may be less than that posed formerly by the Soviet Union on NATO's flanks--a threat the Marine Corps might have needed to handle without additional Naval air support.

However, eliminating 120 Navy aircraft would reduce the absolute number of fighter and attack aircraft in U.S. fleets. A number of military experts have expressed concerns about the sufficiency of even the planned level of forces to wage two regional wars at about the same time. Some analysts also argue that the war with Iraq proved that tactical fighter aircraft could be particularly useful in regional conflicts. These proponents of air power would argue that reducing the number of aircraft in the U.S. inventory thus reduces the most effective forces that DoD operates. In addition to being highly capable, tactical fighter forces--especially naval ones--are among the most mobile forces DoD possesses. Reducing naval tactical air forces therefore reduces the assets that might arrive first on the scene. These forces might be particularly useful if a war were to arise rapidly or enemy forces were to move swiftly.

### RELY MORE ON THE AIR FORCE FOR POWER PROJECTION

In regional conflicts, the United States can project power onto foreign shores with a variety of assets, including ground forces, cruise missiles launched from ships, and several types of bombers. The Air Force operates medium- and long-range bombers from air bases in the United States and in theater. The Navy operates bombers--"strike" aircraft in Navy terminology--from aircraft carriers at sea. The end of the Cold War reduced the need to withhold long-range bombers for nuclear missions and enabled the Air Force to convert a portion of its strategic bomber fleet to conventional bombers. Consequently,

some defense experts have questioned the need for large numbers of both Navy and Air Force aircraft designed to perform the power projection mission.

The approach in this illustration would rely more heavily on Air Force bombers for missions to project U.S. power. In many cases, land bases for staging Air Force missions would be available in the vicinity of a conflict. In the event that no land bases were available to U.S. aircraft during a crisis, then Air Force bombers could operate from bases in the United States and attack targets worldwide with the aid of in-flight refueling.

When a choice is available, it is usually easier and cheaper to operate aircraft from land than from carriers. For example, during Operation Desert Storm, although six carriers were in the theater of operations, land-based Air Force and Marine Corps aircraft flew 76 percent of the attack missions, and the Navy flew only 24 percent. In fact, some carrier-based strike aircraft were flown to land bases for operation so that they could carry their maximum bomb loads and increase their operating tempos.

In the future, sea-based aircraft may be even less effective than they are today, thus further enhancing the advantage held by land-based aircraft. The Navy is retiring the A-6 medium-range bomber and has firm plans for only an interim replacement--the E/F model of the F/A-18. Since the F/A-18 has a shorter range and a smaller payload than the A-6, this replacement could mean that a number of targets accessible today would be out of range if the plane operates from a carrier deck, especially if carriers stay out to sea to limit their vulnerability to attack by enemy fighters or land-based missiles. When the additional cost of operating aircraft from carriers--as a result of the need for the surface ships to protect and supply the carriers--is taken into account, relying more on land-based aircraft for power projection, rather than on those based on carriers, becomes more attractive.

Increasing the dependence on land-based aircraft for projecting power might not substantially lessen flexibility in war. The Navy maintains that carrier-based aircraft at sea, unlike their land-based counterparts, are not hindered by political constraints imposed by the countries in which they are based or must fly over on the way to the target nation. But the independence of carriers may be somewhat overstated. They, too, may depend on ports in the region of conflict for resupply and maintenance. If the country owning a particular port does not feel that the U.S. carrier battle group is acting in its interests and denies it resupply, the battle group may have to rely on long supply lines reaching back to the United States.

Increasing reliance on land-based bombers for attacking regional targets may allow the United States to maintain fewer carriers. Reducing the number of carrier battle groups from the planned 12 (11 active carriers plus one in reserve that can also be used for training) would illustrate one way to reduce the duplication among assets for power projection and has been discussed by many policymakers, including Senator Nunn and President Clinton. A large reduction in the number of carriers, in this illustration from 12 to 7, would be consistent with the topic that is the subject of this paper--major changes in service roles and missions. Alternatively, a more modest cut of two carriers would be more representative of a reduction in the redundancy in the forces maintained by the Air Force and the Navy for projecting power.

### A Carrier Force for One Major Regional Conflict

Seven aircraft carriers should be more than enough to cover one major regional conflict. In the Bottom-Up Review, DoD assumed that four to five carriers would be needed on-station to fight one regional conflict. Current Administration force planning, however, is based on the need to have forces sufficient to engage in two regional conflicts nearly simultaneously. The shortfall in power projection that would result from reducing the number of carriers and their associated air wings presumably would have to be covered by the Air Force's long-range bombers.

**Savings.** Reducing the number of carrier battle groups from 12 to 7, and the number of air wings from 11 to 6, would save more than \$3 billion in 1995 and \$17.4 billion during the 1995-1999 period, compared with the Administration's plan (see Table 3). About \$14.9 billion of these savings would stem from operating and maintaining a smaller force of carriers, the surface ships and submarines needed to defend them, and the replenishment ships needed to resupply them; the remaining \$2.5 billion would be saved by terminating procurement of a new carrier (CVN-76) needed to maintain the force level at 12 carriers when an older carrier retires. The Department of the Navy also would not need to buy as many F/A-18 aircraft. CBO has not estimated the procurement savings because they would be realized after 1999, but eventually the Navy might avoid buying at least 300 F/A-18s. If those planes were to be the new E/F model, which might eventually cost more than \$70 million each, long-term savings could total roughly \$19 billion.

**Disadvantages.** Despite their high cost and the limited range of the aircraft they carry, carriers clearly provide more flexibility than do land-based tactical aircraft, which depend on bases in the area of operations. They also provide more capacity to strike targets and--after evaluating damage--strike them

again than would long-range bombers operating from the United States. If such capacity were required, carrier-based aircraft might be the only ones available to provide it in the early stages of a war. For example, aircraft operating from carriers might have been the only forces available to the United States to perform this mission adequately in the war with Iraq if the Iraqis had attacked Saudi Arabia and been able to deny allied forces the use of Saudi airfields.

Reducing the fleet to seven aircraft carriers would also lessen U.S. presence overseas in peacetime. The Navy argues that the presence of U.S. carrier battle groups in the Pacific Ocean, the Indian Ocean, and the Mediterranean Sea deters aggression by regional powers and allows the United States to respond quickly if a crisis should arise in those areas. It is difficult to measure the deterrent value of carriers on-station overseas, though a number of Presidents have placed enough reliance on the deterrent value of the aircraft carrier to use it as a major diplomatic tool. Reducing the fleet to seven carriers would mean that the United States would run the risk of being able to maintain a continuous presence only in the Persian Gulf or the Mediterranean and the Western Pacific, with no coverage in the remaining region or regions.

**TABLE 3. SAVINGS RESULTING FROM RELYING MORE  
ON THE AIR FORCE FOR POWER PROJECTION**  
(By fiscal year, in millions of dollars of defense budget authority)

Change	1995	1996	1997	1998	1999	Total
Eliminate Five Carriers <sup>a</sup>	3,070 <sup>b</sup>	1,840	2,930	4,090	5,450	17,380
Eliminate Two Carriers	2,790 <sup>b</sup>	700	940	1,190	1,220	6,840

SOURCE: Congressional Budget Office based on Department of Defense data.

a. Includes savings from reducing the number of surface ships and submarines needed for escort and replenishment.

b. Includes savings from canceling procurement of aircraft carrier.

The Navy, however, may be able to replace the presence represented by carrier battle groups by using naval task forces composed of groups of ships without a large carrier. These task forces could include amphibious ready groups centered around small carriers (from which vertical/short take-off and landing--VSTOL--aircraft and helicopters can operate); surface action groups consisting primarily of surface combatants; or maritime action groups consisting of surface ships, land-based marine patrol aircraft, and a submarine. With the advent of VSTOL aircraft, the Tomahawk cruise missile, and the Aegis air defense system, such alternative formations could provide significant strike capability and air defense. These capabilities would be less than those of a carrier battle group, but they might still compare favorably with those of regional powers, and the presence of such ships might well be sufficient to demonstrate U.S. intent. Another alternative that is available in certain theaters--for example, the Mediterranean Sea--would be the presence provided by the navies of allied nations, which may be an adequate substitute for the presence of a U.S. carrier battle group.

Reducing the carrier force from 12 to 7, however, would result in an absolute reduction in the amount of air power available to the United States. Though the amount of air power available may exceed what the United States will require in any single contingency, this reduction might mean that too few forces would be available if, as the Administration assumed in its planning, the U.S. military had to fight in more than one region at once. Such cuts might not cause the United States to lose a war, but they could result in lost territory. Regaining that territory would delay victory and increase U.S. casualties.

Alternatively, the carrier fleet could be reduced to seven and the reduction in naval air power offset, at least partially, by retaining more long-range bombers or more tactical air wings. The Air Force plans to retire a number of older B-52 bombers that had previously been assigned the mission of strategic nuclear attack. But since a B-52G squadron assigned to a conventional mission, which notionally contains 14 bombers, costs about \$140 million (in 1995 dollars) each year to operate, the Air Force could retain several B-52 squadrons without substantially diminishing the savings shown. Another way to offset the reduction in naval aircraft would be for the Air Force--which must cut two additional tactical air wings to reach planned force levels--to retain those wings now planned for elimination. Again, since the annual cost (in 1995 dollars) to operate an active wing of F-16 aircraft is only about \$330 million, and that of a reserve F-16 wing ranges from only \$130 million to \$150 million, a number of land-based fighter wings could be retained and substantial savings realized.

### A Carrier Force for Two Major Regional Conflicts

If the presence represented by a fleet of seven carriers is judged to be inadequate, a smaller cut in carriers--perhaps to 10--might be considered. Ten carriers would provide the fleet needed to fight two wars at the same time, though Air Force bombers would probably still receive some increased use in such a situation. Moreover, 10 carriers would allow the Navy to maintain a larger peacetime presence with its vessel of choice, the carrier. But while 10 carriers clearly provide more capability, they also cost substantially more to operate. Average annual operating savings associated with a 10-carrier force compared with the Administration's plan would be about \$900 million when fully realized, or about 70 percent lower than the \$3 billion average annual operating savings realized with a fleet of seven carriers.

### INCREASE RELIANCE ON ARMY SYSTEMS FOR THEATER MISSILE DEFENSE

Each of the services develops and deploys systems designed to counter attacks from the air. The Navy's systems are primarily limited to defending its ships from air attack. The Army and the Air Force, however, are assigned the mission of protecting not only their own forces but large geographic areas from attack by hostile airborne threats. The Air Force provides defense by using fighter aircraft to attack hostile aircraft regardless of their destination or intended target. Conversely, the Army's systems are designed to protect the area surrounding their position on the ground; the size of that area would depend on the range of the particular air defense system.

The airborne threat that all of the services must defeat has, however, expanded in recent decades. Once confined primarily to aircraft delivering bombs, the threat now includes cruise missiles and theater ballistic missiles as well. Each service is developing systems to counter all of these airborne threats, but the question of which service should be primarily responsible for protecting specific areas on the ground has yet to be answered.

In carrying out its traditional air defense mission, the Army has been developing theater missile defense (TMD) systems to defeat theater ballistic missiles for several years. The recent emphasis on theater defenses, however, has spawned a flurry of new TMD programs in the Navy and the Air Force. Although these systems reflect the missions and operating environments unique to each service, they also overlap with systems that the Army is developing. Some Members of Congress have expressed concern about the cost of developing so many apparently redundant systems. To demonstrate

the savings and losses in capability that could result from eliminating overlapping systems, this illustration would rely solely on Army programs for TMD.

The Administration plans to spend about \$12 billion for all TMD efforts from 1995 through 1999, averaging about \$2.3 billion a year to deploy a "core" package that includes both point defenses (which can protect relatively small targets like airfields or command facilities) and area defenses (to protect areas a few hundred kilometers in diameter). Specifically, the Army would deploy a point defense called the Patriot Advanced Capability (PAC) 3 to defend critical targets toward the rear of the theater and an area defense called Theater High-Altitude Area Defense (THAAD). The Navy would develop a sea-based point defense based on the Standard missile that the Navy deploys on its Aegis destroyers and cruisers. The Administration will also develop a battle management system to enable these TMD systems to function effectively together.<sup>6</sup>

The Administration plans to develop several systems in addition to those in the core package. To increase the area that systems like THAAD can protect, the Administration is developing space-based sensors, a constellation of 20 to 40 satellites called Brilliant Eyes. In addition, the Administration will fund advanced technology demonstrations of three other major systems through 1999: a naval area defense based on Aegis ships that would be similar to THAAD; an Army anti-aircraft and antiballistic missile system--called Corps Surface to Air Missile (SAM)--to protect its maneuver forces closer to the front from aircraft, cruise missiles, and short-range ballistic missiles; and interceptors carried by aircraft that could destroy missiles early in their flight (during the so-called boost phase). In 1998, the Administration will select one of these systems to begin the next phase of development (demonstration and validation). The other two may enter demonstration and validation after 1999.

Consolidating TMD efforts within the Army and eliminating the TMD programs in other services would illustrate potential savings that could result from reducing planned duplication and redundancy. Land-based systems would be favored because they can defend forces both near and away from the coasts. The Army would develop the Patriot and THAAD defenses, as well as a battle management system to tie the defenses together. The Navy's point and area defenses would be terminated. This illustration would also cancel the Brilliant Eyes program and require that the Army rely instead on

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6. For more information on theater missile defenses, see Congressional Budget Office, "Theater Ballistic Missile Defenses: Selected Issues," CBO Staff Memorandum (July 1993).

existing satellites and ground- and aircraft-based sensors for early warning and tracking. To reflect this smaller effort, it would also reduce by one-third general research and support funds in the TMD program that are not tied to a specific system, saving roughly \$200 million annually. This illustration would keep all non-TMD funding at the Administration's planned level, except that it would eliminate funding for Brilliant Eyes and boost-phase interceptors.

Relative to the Administration's plan, these actions would save \$600 million in 1995 and \$3.8 billion from 1995 through 1999 (see Table 4). Savings after 1999 are less certain, but preliminary estimates indicate that consolidating TMD programs could save \$10 billion or more from 1995 through 2006.

Eliminating those programs would have several disadvantages. Canceling all sea-based defenses would reduce the options available to U.S. commanders during a crisis. Although sea-based defenses are limited to defending coastal regions, they can be deployed to a region quickly without requiring access to secure airfields to be airlifted into the theater--a limitation of land-based systems like THAAD. The United States can also deploy sea-based defenses without having to obtain basing rights in another country, a process that could cause domestic political difficulties for some friendly governments.

**TABLE 4. SAVINGS RESULTING FROM INCREASING RELIANCE ON ARMY SYSTEMS FOR THEATER MISSILE DEFENSE**  
(By fiscal year, in millions of dollars of defense budget authority)

Change	1995	1996	1997	1998	1999	Total
Terminate All Air Force and Navy Efforts	600	690	690	910	960	3,850
Terminate All Air Force and Navy Area Defense Efforts	400	440	400	610	700	2,550

SOURCE: Congressional Budget Office based on Department of Defense data.

Sea-based systems can provide coverage in areas not accessible to land-based defenses. On those occasions where missile flight would occur largely over bodies of water, Aegis ships with area defense systems could be deployed between the attacking and the target countries. Because the ship could position itself almost anywhere along the missile flight path, a sea-based defense could maximize the amount of its protective umbrella that covered the target country. Such a capability could be useful, for example, in defending Japan from attack by North Korea or Egypt from attack by countries in the Middle East. Sea-based defenses would also allow the United States to defend small areas--like ports or amphibious landings--from ballistic missile attacks, as well as larger areas like cities, before a system like THAAD could be deployed.

Changes envisioned in this illustration would also limit the area that could be defended by the remaining land-based systems. Canceling Brilliant Eyes would limit the area that THAAD could defend because ground-based and airborne sensors would take longer to detect incoming missiles, thereby reducing the range at which those missiles could be intercepted. These effects may be made more severe by the recent decision of the Department of Defense to cancel the Follow-on Early Warning Satellite, which might have provided some of those capabilities. Canceling Brilliant Eyes could also affect the capability of a future national missile defense system, if the United States eventually chooses to deploy one. In addition, terminating boost-phase interceptor programs would halt work on systems that have the potential to be effective against missiles armed with nuclear or chemical warheads, if technical problems can be overcome.

Notwithstanding such disadvantages in this illustration, the United States would still deploy capable land-based point and area defenses and a battle management system, all according to the schedule proposed by the Administration. Even without sea-based defenses, the United States would still retain some ability to defend ports adequately. For example, supply ships could deliver Corps SAM, Patriot, and THAAD batteries to defend the port. Similarly, planned upgrades by the Marine Corps to its Hawk air defense system will provide some capability against theater ballistic missiles during amphibious landings once beachheads are secure. Finally, much of the mission for the Navy's area defense is to protect allied populations. If Japan and European nations feel threatened, they could deploy their own ballistic missile defenses.

Consolidating all TMD funding within the Army would halt several programs early in their development phase. In addition to the savings between 1995 and 1999, these actions could avoid significant costs beyond

1999, when the programs would have entered full-scale development and production.

In addition to lowering costs, canceling Brilliant Eyes would eliminate the concerns of some critics that the sensors--by effectively substituting for antiballistic missile radars--would violate the Anti-Ballistic Missile treaty. The contractor building THAAD has stated that the capability of its system does not depend critically on Brilliant Eyes and that such sensors are only needed to defend the large areas required for national missile defenses. Since the Administration has indefinitely delayed a decision to deploy national missile defenses, space-based sensors such as Brilliant Eyes may not be required for many years, if at all.

Nevertheless, eliminating sea-based point defenses, as envisioned in this illustration, might leave the United States with inadequate capability to defend against theater ballistic missiles. U.S. commanders might want the flexibility to defend point targets from the sea. Such a capability could be useful to defend ports when ships are bringing supplies and materiel for U.S. forces or to support Marines during an amphibious landing. Sea-based defenses would also allow U.S. commanders to provide some deterrence early in a crisis by deploying defenses off the coast of an ally without having to secure basing rights. A less drastic reduction of the TMD program would deploy Army point and area defenses and develop Navy point defenses as well, but not Navy area defenses. Savings would be more modest (about \$400 million in 1995 and just under \$2.6 billion through 1999 compared with the Administration's plan), but the additional capability gained might be worthwhile.

## **IMPLICATIONS OF CHANGING ROLES AND MISSIONS**

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The illustrations in this paper show that reducing currently redundant capabilities among the services could result in significant budgetary savings. An unspoken assumption underlying all these savings is that the service left with the sole responsibility for the mission in question funds that mission out of existing budgetary resources. If each of the services has sufficient resources today to carry out its current mission, and if the illustrations deal with truly duplicative capabilities between the services, then the currently planned level of funding should be sufficient.

Each of the options in this paper was meant to illustrate the implications of eliminating one specific duplication that has been highlighted during recent defense debates. The combined effect if all of the options were

adopted was not considered. In fact, each of the illustrations should be considered on its own merit.

A legitimate concern might be the loss in total capability that is inherent in each of the illustrations. Although the issues addressed all involve duplicative capabilities, the multiple layers of capability do provide U.S. commanders with the ability to carry out the same mission simultaneously in different theaters or from different avenues of attack. Without the redundancy inherent in overlapping roles and missions, the United States would lose this ability. Defense experts generally agreed that this duplication, though expensive, was necessary when the United States faced the threat of massive and overwhelming forces fielded by the Soviet Union and its allies in the Warsaw Pact. Without this threat today, and facing budgetary constraints, such flexibility may be a luxury the United States can no longer afford.

Consolidations in support functions, which were not explicitly examined in this chapter, could conceivably result in significant savings without, however, affecting overall military capability. Furthermore, implementing multiple consolidations in support activities probably would not have adverse consequences. Although CBO has not yet had an opportunity to examine all the implications of consolidations in specific support activities, such consolidations do provide an opportunity for increasing the efficiency of the U.S. military and saving money, without diminishing overall capability.